Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A ~~Position~~ position-sensitive detector for measuring charged particles comprising a crystalline substrate and a surface region, ~~which is formed by~~ the surface region comprising an amorphous layer with a structured, metallic layer disposed above it, ~~characterised in that~~ wherein the structure of the metallic layer ~~is continued~~ continues through the amorphous layer and at least partially into the crystalline substrate ~~amorphous layer~~.

2. (Canceled)

3. (Currently Amended) The ~~Position~~ position-sensitive detector according to claim 1, ~~characterised in that~~ wherein the amorphous layer is formed from germanium or silicon.

4. (Currently Amended) The ~~Position~~ position-sensitive detector according to claim 1, ~~characterised in that~~ wherein the metallic layer ~~consists of~~ comprises aluminium, palladium or gold.

5. (Currently Amended) The ~~Position~~ position-sensitive detector according to claim 1, ~~characterised in that~~ wherein the ~~crystalline region beneath the amorphous layer~~ substrate is formed of germanium, silicon or a III-V compound.

6. (Currently Amended) The ~~Position~~ position-sensitive detector according to claim 1, ~~characterized in that~~ wherein the structure of the metallic layer is formed from segments~~, which provide~~ having a mutual spacing of less than 200 µm~~, in particular, a spacing of less than 100 µm, by particular preference less than 20 µm~~.

7. (Currently Amended) The ~~Position~~ position-sensitive detector according to claim 1, ~~characterised in that~~ wherein the amorphous layer is ~~applied to~~ disposed on a semiconductor material.

8. (Currently Amended) The ~~Position~~ position-sensitive detector according to claim [[1]] 3, ~~characterised in that~~ wherein the amorphous layer ~~provides an electrical conductivity, which is substantially less than the conductivity of the material disposed beneath the amorphous layer~~ is not doped.

9. (Previously Presented) Tomograph or Compton camera with a detector according to claim 1.

10. (New) The position-sensitive detector according to claim 6, wherein the mutual spacing is less than 100 μm.

11. (New) The position-sensitive detector according to claim 6, wherein the mutual spacing is less than 20 μm.

12. (New) A method of producing a position-sensitive detector for measuring charged particles, comprising:

providing a crystalline substrate;

disposing on the substrate an amorphous Gallium layer;

disposing on the amorphous Gallium layer a metallic layer;

removing portions of the metallic layer, the amorphous Gallium layer and the crystalline substrate such that at least one structured electrode is formed.